

CLAIMS

What I claim is:

1. A method for obtaining particulate calcium carbonate having an average particle size less than about 12 microns, comprising the steps of:
withdrawing from a pulp mill a mixture containing calcium carbonate;
treating the mixture to remove contaminants contained in the mixture to
produce a treated mixture containing calcium carbonate; and
recovering from the treated mixture particulate calcium carbonate having
an average particle size less than about 12 microns.
2. The method of claim 1, wherein in the step of withdrawing from a pulp mill a mixture containing calcium carbonate, the mixture containing calcium carbonate is withdrawn from a pulp mill lime mud storage tank.
3. The method of claim 1, wherein in the step of withdrawing from a pulp mill a mixture containing calcium carbonate, the mixture containing calcium carbonate is withdrawn from a discharge of the mud filter.
4. The method of claim 1, wherein in the step of withdrawing from a pulp mill a mixture containing calcium carbonate, the mixture containing calcium carbonate is withdrawn from a pulp mill dust control system.

5. The method of claim 1, wherein in the step of withdrawing from a pulp mill a mixture containing calcium carbonate, the mixture containing calcium carbonate is withdrawn from a plurality of a pulp mill lime mud storage tanks, a mud filter, a pulp mill dust control system, and combinations thereof.

6. The method of claim 1, wherein in the step of withdrawing from a pulp mill a mixture containing calcium carbonate, the mixture containing calcium carbonate is withdrawn from a pulp mill recausticizing cycle at a constant rate so as to require fresh calcium to be added to the recausticizing cycle at a rate greater than about 25 percent by weight of the requirements of the recausticizing cycle.

7. The method of claim 1, wherein in the step of withdrawing from a pulp mill a mixture containing calcium carbonate, the mixture containing calcium carbonate is being withdrawn from a pulp mill recausticizing cycle in staggered batches so as to require fresh calcium to be added to the recausticizing cycle at a rate greater than about 25 percent by weight of the requirements of the recausticizing cycle.

8. A method for obtaining particulate calcium carbonate having an average particle size less than about 12 microns, comprising the steps of:

withdrawing from a pulp mill a mixture containing calcium carbonate;
segregating the particulate calcium carbonate from the mixture
containing calcium carbonate within the pulp mill prior to
withdrawing the particulate calcium carbonate from the pulp mill;
and
recovering from the segregated particulate calcium carbonate, a
particulate calcium carbonate having an average particle size less
than about 12 microns.

9. A method for optimizing the operation of the recausticizing cycle in
a pulp mill, comprising the steps of:

withdrawing from the pulp mill recausticizing cycle a mixture containing
particulate calcium carbonate;

injecting an effective amount of a fresh calcium containing compound
selected from the group consisting of calcium oxide and calcium
carbonate, into the recausticizing cycle to replace the withdrawn
mixture;

treating the withdrawn mixture to substantially remove contaminants in
the mixture to produce a treated calcium carbonate mixture; and

recovering from the treated calcium carbonate mixture a particulate calcium carbonate having an average particle size less than about 12 microns.

10. A method for adjusting and enhancing the pH of soil, comprising the steps of:

withdrawing from a pulp mill a mixture containing calcium carbonate;
treating the mixture to produce a substantially contaminant free treated mixture containing particulate calcium carbonate having an average particle size less than about 12 microns;

admixing an effective amount of water to the treated mixture containing calcium carbonate having an average particulate size of less than about 12 microns to provide a sprayable calcium carbonate slurry;
and

spraying an effective amount of the sprayable calcium carbonate slurry onto the soil to penetrate the soil to a predetermined depth in order to adjust the pH of the soil.

11. The method according to claim 10, further comprising the steps of:
allowing a predetermined amount of time to elapse to permit the calcium carbonate in the sprayable slurry to penetrate the soil; and

measuring the pH of the soil after the predetermined amount of time.

12. A method for reducing acid gas contaminants from furnace and post furnace regions of power boilers, recovery boilers and other gas streams of such constituents, comprising the steps of:

withdrawing from a pulp mill a mixture containing calcium carbonate;

treating the mixture to produce a substantially contaminant free treated mixture containing particulate calcium carbonate having an average particle size less than about 12 microns;

injecting an effective amount of the treated mixture containing calcium carbonate having an average particulate size of less than about 12 microns into a coal stack burning assembly.

13. A method for producing a filler for unbleached pulp or paper, comprising the steps of:

withdrawing from a pulp mill a mixture containing calcium carbonate;

treating the mixture to produce a substantially contaminant free treated mixture containing particulate calcium carbonate having an average particle size less than about 12 microns;

injecting an effective amount of the treated mixture calcium carbonate having an average particulate size of less than about 12 microns into a fiber producing assembly.